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The Mineral Industry of Austria

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This publication is a chapter from the current Bureau of Mines Minerals Yearbook, comprising *Volume I, Metals and Minerals; Volume II, Area Reports: Domestic; Volume III, Area Reports: International.* The separate volumes of the Yearbook are sold by the Superintendent of Documents, Washington, D.C. 20402.

The Mineral Industry of Austria

By George A. Rabchevsky[1]

The mining and mineral processing industries continued to play an integral and visible part in the Austrian economy. On the average, the Austrian mining industry, including mineral fuels, contributes about $800 million to $1 billion[2] to the general economy of the country. Ore mining usually makes up about 8% to 9% of the revenues, while oil and gas make up almost 50% of the total. Austria has a long mining tradition, and even though the country has a variety of various mineral resources, the country is small and reserves, necessarily limited in scope, have declined considerably. In 1984, base metals, graphite, iron ore, magnesite, and tungsten were the backbone of the mining industry, while steelmaking and the production of antimony, with some lead and zinc, were the main processing industries contributing to the economy. In order to support the expansive minerals processing industry, Austria had to supplement much of its domestic requirements through imports, including iron ore from the U.S.S.R. Basic refractories continued to be among the principal industrial mineral exports.

The Austrian economy, in general, remained about the same as in the past 3 years, the real gross domestic product growing by 2.5% each year. Unemployment, one of the lowest in the world, remained at 4.5%. Continued economic recovery led employment to rise to a total of 2,744,000 persons in 1984. There were almost 10,000 workers employed by the mining industry, a figure that was declining gradually each year. Over 65% of these workers were employed by the mineral fuels sector and only about 13% by the metal mining industries. Almost 20% were working in underground mines.

The industrial sector in Austria was dominated by two factors: The "Social Contract," or wage and price agreements, among government, industry, and unions, and the fact that a major part of the industry was nationally owned. The state-owned holding company, Österreichische Industrieverwaltungs AG (OIAG), for example, is a vast concern that employed about 10,000 people and included Voest-Alpine AG (VA), an iron and steel producer; Österreichische Mineralölverwaltungs AG (OMV), oil production and refining; Chemie-Linz AG, chemicals, fertilizers, and metallic compounds; engineering companies such as Simmering-Graz-Pauker AG; Bleiberger Bergwerks-Union AG, a base metal mining and refining company; and Vereinigte Metallwerke Ranshofen-Berndorf AG, aluminum production. Most of OIAG'S companies were profitable or broke even in 1984. The Government funneled about $770 million into OIAG in 1984 for a major reconstruction plan, to end in 1986.[3]

PRODUCTION

Production by the Austrian mining industry remained almost the same as in 1983, with small increases in some metal and nonmetal commodities, and continued incremental decreases in the state-owned oil and gas industries. The upward trend in total industrial output, which began in 1983, continued in 1984 with a real growth of 5%. There were 85 operating mines and quarries in Austria, of which 22 were underground mines. There were 55 rock quarries and 7 underground industrial minerals

mines.

Because Austria was deficient in a number of important raw materials, an exploration and evaluation program was inaugurated by the Ministry of Trade, Commerce and Industry and the Ministry of Science and Research. The aerial geophysical and geochemical survey resulted in thousands of rock and data samples, which were being examined. Among the more important of the ongoing projects were lead-zinc mineralization at Silberberg-Stubing, north of Gratz, lithium-bearing pegmatites at Koralpe on the Styria-Corinthia border, and copper and barite in dolomite formations at Schwaz in the Tyrol.[4]

Table 1.—Austria: Production of mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	1980	1981	1982	1983	1984[p]
METALS					
Aluminum metal:					
Primary	94,393	r94,219	93,908	94,200	95,352
Secondary	31,926	46,343	39,066	56,785	56,579
Total	126,319	140,562	132,974	150,985	151,931
Antimony, mine output, metal content of concentrate	662	603	667	659	523
Cadmium metal	36	55	48	46	49
Copper:					
Smelter, secondary	26,100	27,100	30,000	28,000	e33,000
Refined:					
Primary	r8,887	r8,804	r8,802	8,769	9,592
Secondary	r34,658	r30,313	r32,757	33,131	33,255
Total	r43,545	39,117	41,559	41,900	42,847
Germanium, metal content of concentrates kilograms	4,500	4,000	4,000	6,000	e5,000
Iron and steel:					
Iron ore and concentrates:					
Gross weight thousand tons	3,200	3,050	3,330	3,540	3,600
Metal content do	986	948	1,045	1,107	e1,110
Metal:					
Pig iron do	3,485	r3,477	3,115	3,320	3,745
Ferroalloys, electric-furnace do	10	12	14	14	e14
Steel, crude do	r4,623	4,656	4,258	4,411	4,868
Semimanufactures do	3,818	3,477	3,381	3,555	3,842
Lead:					
Mine output, metal content of concentrate	4,316	4,320	4,086	4,290	4,151
Metal: Smelter:					
Primary	5,418	3,343	3,410	4,210	e4,900
Secondary	11,547	12,789	14,512	12,860	e13,000
Total	16,965	16,132	17,922	17,070	e17,900
Manganese, Mn content of domestic iron ore	47,216	55,876	61,549	65,284	67,101
Tungsten, mine output, metal content of concentrate	2,150	1,435	1,714	1,408	1,632
Zinc:					
Mine output, metal content of concentrate	19,117	18,181	19,065	19,432	20,879
Metal refined	22,102	22,674	23,000	23,000	24,000
NONMETALS					
Barite	249	--	--	--	--
Cement, hydraulic thousand tons	r5,457	5,288	5,012	4,907	4,899
Clay:					
Illite	504,812	331,448	441,497	381,598	285,553
Kaolin:					
Crude	340,980	315,560	351,392	402,511	455,695
Marketable	83,882	79,064	77,288	83,558	99,541
Other	61,635	52,173	15,598	32,946	18,058
Feldspar, crude	10,946	10,357	2,960	1,063	2,554
Graphite, crude	36,699	23,807	24,451	40,418	43,789
Gypsum and anhydrite, crude	833,417	800,515	727,520	750,921	740,117
Lime thousand tons	1,005	1,034	1,027	1,140	1,262
Magnesite:					
Crude do	1,318	1,159	1,031	1,006	1,183
Sintered or dead-burned do	427	361	370	320	377
Caustic calcined do	132	102	98	89	93

See footnotes at end of table.

Table 1.—Austria: Production of mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1980	1981	1982	1983	1984[p]
NONMETALS —Continued					
Nitrogen: N content of ammonia thousand tons	490	486	485	495	[e]500
Pigments, mineral: Micaceous iron oxide	10,959	11,320	9,570	11,734	[e]11,500
Pumice (trass)	8,162	8,308	10,551	2,458	9,666
Salt:					
Rock thousand tons	1	1	1	1	1
In brine:					
Evaporated do.	410	462	434	359	419
Other do.	261	264	214	141	239
Total do.	672	727	649	501	659
Sand and gravel:					
Quartz sand do.	878	869	864	816	782
Other do.	[r]18,637	[r]17,210	[r]15,192	15,336	[e]15,500
Total do.	[r]19,515	[r]18,079	[r]16,056	16,152	16,282
Sodium compounds, n.e.s.:[e]					
Carbonate, synthetic do.	170	170	170	170	150
Sulfate, synthetic do.	55	55	55	55	50
Stone:[2]					
Dolomite do.	1,017	1,227	1,029	938	[2]981
Quartz and quartzite do.	219	184	177	171	[2]223
Other including limestone and marble do.	[r]14,501	[r]13,645	[r]12,559	11,964	[e]12,000
Total do.	[r]15,737	[r]15,056	[r]13,765	13,073	13,204
Sulfur:					
Byproduct:					
Of metallurgy	8,731	9,133	9,504	9,429	10,113
Of petroleum and natural gas	18,733	27,861	38,243	32,000	28,480
From gypsum and anhydrite	23,836	25,143	27,102	26,122	26,449
Total	51,300	62,137	74,849	67,551	65,042
Talc and soapstone	[r]116,698	116,425	117,092	122,128	134,011
MINERAL FUELS AND RELATED MATERIALS					
Coal, brown and lignite thousand tons	2,865	3,061	3,297	3,041	2,928
Coke do.	[r]1,729	[r]1,686	1,622	1,725	1,854
Gas, natural:					
Gross million cubic feet	67,211	50,730	46,758	42,850	44,933
Marketed do.	55,443	41,835	38,088	34,205	[e]36,000
Oil shale	950	970	1,010	1,060	[e]1,000
Petroleum:					
Crude thousand 42-gallon barrels	10,290	9,324	8,994	8,847	8,407
Refinery products:					
Gasoline do.	15,409	16,251	15,378	16,407	[e]16,200
Kerosine and jet fuel do.	1,053	1,242	1,059	1,079	[e]1,050
Distillate fuel oil do.	18,970	15,767	15,484	15,267	[e]15,200
Residual fuel oil do.	28,974	21,821	17,740	11,646	[e]12,000
Lubricants do.	1,070	767	538	603	[e]600
Liquefied petroleum gas do.	4,470	4,808	3,876	4,966	[e]4,500
Bitumen do.	2,173	1,657	1,605	1,218	[e]1,300
Unspecified do.	506	1,283	270	676	[e]700
Refinery fuel and losses do.	3,565	3,320	3,072	3,064	[e]3,100
Total do.	76,190	66,916	59,022	54,926	54,650

[e]Estimated. [p]Preliminary. [r]Revised.

[1]Table includes data available through June 1985.

[2]Excluding stone used by the cement and iron and steel industries.

TRADE

Trade in processed minerals played an important role in the country's economy, even though tourism was the major industry in Austria. Austrian industrial exports to Western Europe in 1983 were 69% of the total, to the Council of Mutual Economic Assistance (CMEA) countries excluding Yugoslavia (12%), and 18.5% went to the rest of the world.[5] Austria depended on imports for about 75% of its mineral raw material

requirements. Certain key metals and minerals had to be totally imported: alumina, tin, copper, chromium, manganese, molybdenum, cobalt, nickel, and rare-earth metals. Imported industrial minerals were asbestos, fluorspar, potash, phosphates, and cryolite. Coking and metallurgical coals were imported primarily from CMEA countries. Over the last 10 years, Austria's dependence on CMEA energy imports had risen markedly, from 27% in 1973 to almost 33% in 1983, and further increased in 1984.[e] Overall Austrian imports grew by 13.4%, or about 9% in real terms.

Table 2.—Austria: Exports of selected mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	1982	1983	Destinations, 1983	
			United States	Other (principal)
METALS				
Aluminum:				
Ore and concentrate	29	47	--	NA.
Metal including alloys:				
Scrap	51,406	59,547	--	West Germany 29,923; Italy 27,989.
Unwrought	27,635	30,153	20	West Germany 8,801; Japan 7,789.
Semimanufactures	68,667	89,207	1,696	West Germany 24,467; Switzerland 5,618; Italy 5,135.
Antimony:				
Ore and concentrate	--	4	NA	NA.
Oxides kilograms	15,400	100	--	NA.
Metal including alloys, all forms do.	--	500	--	NA.
Cadmium: Metal including alloys, all forms	53	51	--	Italy 25; United Kingdom 15.
Chromium:				
Ore and concentrate	49	622	--	Greece 288; East Germany 240.
Oxides and hydroxides	8	4	--	Mainly to Yugoslavia.
Columbium and tantalum: Metal including alloys, all forms, tantalum	10	12	NA	NA.
Copper:				
Matte and speiss including cement copper	4	24	--	All to West Germany.
Oxides and hydroxides	--	7	--	NA.
Sulfate	24	41	NA	Denmark 30.
Metal including alloys:				
Scrap	5,021	9,075	--	West Germany 6,316; Belgium-Luxembourg 1,407.
Unwrought	19,574	23,028	--	Italy 11,530; West Germany 7,591.
Semimanufactures	17,063	15,879	94	West Germany 5,949; Italy 2,876; France 1,861.
Gold:				
Waste and sweepings value, thousands	$42	$27	--	All to West Germany.
Metal including alloys, unwrought and partly wrought troy ounces	r17,972	20,094	NA	West Germany 13,600; Italy 4,212.
Iron and steel:				
Iron ore and concentrate excluding roasted pyrite	(2)	50	--	All to West Germany.
Metal:				
Scrap	8,840	12,642	--	Italy 4,787; West Germany 3,290.
Pig iron, cast iron, related materials	4,470	4,841	118	West Germany 1,394; Bulgaria 861.
Ferroalloys	12,085	12,771	625	Romania 2,184; Italy 1,418; Poland 1,197.
Steel, primary forms	276,759	342,849	4,573	West Germany 149,425; Iran 61,835; East Germany 59,956.
Semimanufactures:				
Bars, rods, angles, shapes, sections	340,387	379,621	5,264	West Germany 91,285; Italy 77,804; East Germany 75,636.
Universals, plates, sheets	1,296,220	1,350,701	8,166	U.S.S.R. 417,078; West Germany 332,555.
Hoop and strip	97,199	126,174	839	West Germany 36,783; East Germany 17,170.

See footnotes at end of table.

Table 2.—Austria: Exports of selected mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1982	1983	Destinations, 1983	
			United States	Other (principal)
METALS —Continued				
Iron and steel —Continued				
Metal —Continued				
Semimanufactures —Continued				
Rails and accessories	88,870	72,232	429	Algeria 29,011; Switzerland 18,803.
Wire	58,141	59,595	810	West Germany 30,181; Italy 6,611.
Tubes, pipes, fittings	307,510	383,556	2,005	U.S.S.R. 183,406; West Germany 67,025.
Castings and forgings, rough	14,584	13,285	388	West Germany 5,443; Italy 1,390.
Lead: Metal including alloys:				
Scrap	111	2	--	NA.
Unwrought	837	767	--	Greece 344; Italy 250; Hungary 100.
Semimanufactures	26	58	--	U.S.S.R. 17; Iraq 10; Yugoslavia 5.
Magnesium: Metal including alloys:				
Scrap	630	340	--	West Germany 185; Italy 146.
Unwrought	133	656	--	West Germany 528; Italy 103.
Semimanufactures	495	761	NA	NA.
Manganese: Oxides	39	70	--	Yugoslavia 55.
Mercury 76-pound flasks	102	104	NA	West Germany 67.
Molybdenum:				
Oxides and hydroxides	--	6	--	All to West Germany.
Metal including alloys, all forms	r1,047	1,201	NA	NA.
Nickel:				
Matte and speiss	(2)	5	--	All to Yugoslavia.
Metal including alloys:				
Scrap	255	457	--	West Germany 267; United Kingdom 98.
Unwrought	8	6	--	Yugoslavia 4.
Semimanufactures	382	430	23	Iran 144; West Germany 77.
Platinum-group metals: Metals including alloys, unwrought and partly wrought troy ounces	r10,770	11,478	--	West Germany 8,745; Sweden 643; Greece 611.
Rare-earth metals including alloys, all forms	378	385	NA	NA.
Silver:				
Waste and sweepings value, thousands	$126	$445	--	United Kingdom $303; West Germany $136.
Metal including alloys, unwrought and partly wrought thousand troy ounces	1,880	1,703	--	West Germany 966; Yugoslavia 433; Switzerland 230.
Tin:				
Oxides	11	12	--	Bulgaria 6; Poland 6.
Metal including alloys:				
Scrap	20	17	--	All to West Germany.
Unwrought	20	49	--	United Kingdom 18; West Germany 12; Yugoslavia 5.
Semimanufactures	6	53	--	Yugoslavia 50; West Germany 2; Italy 1.
Titanium: Oxides	14	3	NA	NA.
Tungsten:				
Ore and concentrate	(3)	73	--	Hungary 39; West Germany 34.
Oxides and hydroxides	(3)	53	--	All to West Germany.
Metal including alloys, all forms	663	874	NA	NA.
Zinc:				
Oxides	1,306	1,748	--	Yugoslavia 933; Hungary 622.
Blue powder	18	--		
Metal including alloys:				
Scrap	558	448	NA	West Germany 434.
Unwrought	2,835	4,861	--	Yugoslavia 2,351; Czechoslovakia 900.
Semimanufactures	448	1,074	(3)	Iran 745; Yugoslavia 162.
Other:				
Ores and concentrates	184	130	14	West Germany 51; Czechoslovakia 41.
Ashes and residues	107,004	111,179	--	Italy 87,662; West Germany 21,132.
Waste and sweepings of unspecified precious metals value, thousands	r$4,847	$3,254	--	West Germany $2,873; France $294.
Base metals including alloys, all forms	r3	2,209	194	Italy 1,725; United Kingdom 168.
NONMETALS				
Abrasives, n.e.s.:				
Natural: Corundum, emery, pumice, etc	110	95	--	West Germany 64.
Artificial, silicon carbide	33	23	NA	West Germany 20.
Grinding and polishing wheels and stones	11,922	11,862	52	West Germany 1,997; Italy 1,054; France 954.

See footnotes at end of table.

Table 2.—Austria: Exports of selected mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1982	1983	Destinations, 1983	
			United States	Other (principal)
NONMETALS —Continued				
Asbestos, crude	10	31	--	Switzerland 24.
Barite and witherite	20	48	--	All to West Germany.
Cement	23,960	15,644	--	West Germany 12,832; Italy 779.
Chalk	1,987	1,335	--	Hungary 956; Italy 184.
Clays, crude:				
Bentonite	(2)	26	--	NA.
Chamotte earth	7	39	--	NA.
Dinas earth	711	NA		
Kaolin	27,863	35,664	--	Hungary 15,752; West Germany 10,384.
Unspecified	383	13,500	--	West Germany 12,658.
Diamond:				
Gem, not set or strung value, thousands	$523	$196	$6	West Germany $105; Hungary $50.
Industrial stones do	$52	$47	--	Yugoslavia $35.
Diatomite and other infusorial earth	815	1,357	--	Yugoslavia 689; Czechoslovakia 203.
Feldspar	14	1	NA	NA.
Fertilizer materials:				
Crude, n.e.s	294	278	--	Switzerland 129; West Germany 124.
Manufactured:				
Phosphatic	50,348	30,831	--	Hungary 30,262; Italy 543.
Potassic	3	1,702	--	All to West Germany.
Unspecified and mixed	816,997	866,399	15	West Germany 427,621; East Germany 203,338.
Graphite, natural	13,384	11,404	10	Poland 4,899; West Germany 3,397.
Gypsum and plaster	166,522	190,463	--	West Germany 187,180; Italy 2,492.
Lime	1,727	1,732	--	West Germany 1,355; Hungary 310.
Magnesium compounds	160,567	131,043	1,016	West Germany 37,456; France 18,510; Venezuela 12,533.
Mica:				
Crude including splittings and waste	602	829	--	Greece 448; Spain 187.
Worked including agglomerated splittings	152	189	--	West Germany 57; Yugoslavia 20; Finland 17.
Phosphates, crude	--	929	--	West Germany 923.
Pigments, mineral:				
Natural, crude	7,683	7,507	106	West Germany 2,440; United Kingdom 1,709.
Iron oxides and hydroxides, processed	693	1,185	NA	West Germany 1,164.
Potassium salts, crude	82	--		
Precious and semiprecious stones other than diamond:				
Natural kilograms	800	341	9	West Germany 257; France 24.
Synthetic do	2,830	4,025	506	India 1,687; Thailand 399; Algeria 356.
Pyrite, unroasted	23	46	--	Italy 24; Netherlands 20.
Salt and brine	1,443	1,014	--	West Germany 818.
Sodium compounds, n.e.s.:				
Carbonate, manufactured	r36	26	NA	NA.
Sulfate, manufactured	73,349	72,748	NA	West Germany 33,337; Italy 20,895.
Stone, sand and gravel:				
Dimension stone:				
Crude and partly worked	116,684	96,948	--	West Germany 81,636; Switzerland 14,943.
Worked	24,193	27,573	256	West Germany 20,644; Switzerland 6,297.
Dolomite, chiefly refractory-grade	4,165	3,826	--	West Germany 3,063; France 426.
Gravel and crushed rock	705,792	620,554	--	West Germany 311,407; Switzerland 296,994.
Limestone other than dimension	7,997	914	--	West Germany 911.
Quartz and quartzite	332	86	--	Netherlands 50; West Germany 35.
Sand other than metal-bearing	157,374	158,753	--	West Germany 78,578; Switzerland 74,985.
Sulfur:				
Elemental:				
Crude including native and byproduct	22	575	--	Yugoslavia 563.
Colloidal, precipitated, sublimed	(2)	2	NA	NA.
Sulfuric acid	13,547	9,961	NA	Italy 5,452; West Germany 3,289.
Talc, steatite, soapstone, pyrophyllite	98,656	104,252	--	West Germany 58,820; Italy 13,235.
Other:				
Crude	r14,008	17,530	NA	West Germany 6,522; Switzerland 105.
Slag and dross, not metal-bearing	139,773	113,327	--	West Germany 106,908; Italy 4,767.

See footnotes at end of table.

Table 2.—Austria: Exports of selected mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1982	1983	Destinations, 1983	
			United States	Other (principal)
MINERAL FUELS AND RELATED MATERIALS				
Asphalt and bitumen, natural	457	23	--	Bulgaria 7; U.S.S.R. 7.
Carbon: Carbon black	17	27	NA	West Germany 24.
Coal:				
Anthracite	10	6	--	All to Switzerland.
Bituminous	79	741	--	West Germany 505; Italy 228.
Briquets of anthracite and bituminous coal	44	114	--	Switzerland 99; Yugoslavia 15.
Lignite including briquets	15,349	9,489	--	West Germany 9,422; Switzerland 66.
Coke and semicoke	331	283	--	West Germany 180; Switzerland 103.
Peat including briquets and litter	5,359	6,262	--	Italy 4,852; Switzerland 568.
Petroleum:				
Crude, 42-gallon barrels	7	7	--	Mainly to West Germany.
Refinery products:				
Liquefied petroleum gas, do.	593,108	572,076	--	Italy 403,581; Yugoslavia 87,967.
Gasoline: Motor, do.	116,977	127,585	--	West Germany 82,662; Hungary 44,642.
Mineral jelly and wax, do.	194,712	211,797	--	Netherlands 147,833; West Germany 37,777.
Kerosine and jet fuel, do.	20,569	59,628	--	Yugoslavia 35,155; West Germany 19,104.
Distillate fuel oil, do.	7,139	6,751	--	Yugoslavia 5,058; Czechoslovakia 1,306.
Lubricants, do.	r325,426	338,275	21	Czechoslovakia 131,973; Hungary 105,325.
Residual fuel oil, do.	38,828	110,037	--	Yugoslavia 81,079; Poland 28,565.
Asphalt, do.	61,796	2,082	--	West Germany 2,074.
Bitumen and other residues, do.	r27,795	85,539	--	Libya 46,607; Algeria 29,616.
Bituminous mixtures, do.	41,596	49,474	--	Algeria 14,388; West Germany 13,890.
Nonlubricating oils, do.	64,386	62,258	--	Iran 23,100; Yugoslavia 16,100.
White oils, do.	336	2,401	--	Poland 2,254; Iraq 63.

rRevised. NA Not available.
[1]Table prepared by Jozef Plachy.
[2]Less than 1/2 unit.

Table 3.—Austria: Imports of selected mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	1982	1983	Sources, 1983	
			United States	Other (principal)
METALS				
Alkali and alkaline-earth metals:				
Alkali metals	59	36	--	West Germany 19; France 11; United Kingdom 6.
Alkaline-earth metals	2	7	--	West Germany 6.
Aluminum:				
Ore and concentrate	24,945	27,762	NA	NA.
Oxides and hydroxides	219,984	217,800	NA	Hungary 3,400; undetermined 210,967.
Metal including alloys:				
Scrap	67,352	68,354	NA	NA.
Unwrought	43,909	52,155	--	West Germany 30,362; Norway 11,961.
Semimanufactures	42,040	48,326	33	West Germany 22,347; Switzerland 8,585.
Antimony:				
Ore and concentrate	211	--	--	
Oxides	161	212	NA	Belgium-Luxembourg 116; U.S.S.R. 80.
Metal including alloys, all forms	48	32	NA	China 10; Hong Kong 10.
Arsenic: Oxides and acids	14	2	--	NA.
Beryllium: Metal including alloys, all forms, value, thousands	$1	$35	$30	NA.

See footnotes at end of table.

Table 3.—Austria: Imports of selected mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1982	1983	Sources, 1983	
			United States	Other (principal)
METALS —Continued				
Cadmium: Metal including alloys, all forms	3	2	--	Mainly from United Kingdom.
Chromium:				
Ore and concentrate	49,906	40,390	NA	Republic of South Africa 30,754.
Oxides and hydroxides	328	456	NA	West Germany 184; U.S.S.R. 120.
Cobalt: Oxides and hydroxides	3	5	--	Mainly from West Germany.
Columbium and tantalum: Metal including alloys, all forms, tantalum	30	12	5	West Germany 5.
Copper:				
Ore and concentrate	--	1	--	All from United Kingdom.
Matte and speiss including cement copper	11	2	--	All from West Germany.
Oxides and hydroxides	44	44	--	Belgium-Luxembourg 41.
Sulfate	536	634	--	Italy 488; Belgium-Luxembourg 53.
Metal including alloys:				
Scrap	29,009	27,728	--	West Germany 11,515; U.S.S.R. 8,859.
Unwrought	15,407	10,833	20	Namibia 4,194; Republic of South Africa 3,872.
Semimanufactures	56,352	60,025	34	West Germany 32,370; Italy 8,283.
Gold: Metal including alloys, unwrought and partly wrought troy ounces	r116,482	142,074	3,440	Switzerland 55,460; Republic of South Africa 35,462.
Iron and steel:				
Iron ore concentrate:				
Excluding roasted pyrite thousand tons	3,241	2,391	--	U.S.S.R. 998; Sweden 724; Brazil 336.
Pyrite, roasted do	34	21	--	West Germany 10; Yugoslavia 7.
Metal:				
Scrap	380,562	218,822	56	West Germany 91,635; U.S.S.R. 59,829.
Pig iron, cast iron, related materials	77,847	38,200	4	Canada 11,297; U.S.S.R. 8,943.
Ferroalloys:				
Ferrochromium	23,625	18,524	--	Yugoslavia 5,184; U.S.S.R. 4,502.
Ferromanganese	24,466	22,710	--	Norway 14,729; West Germany 3,808.
Ferromolybdenum	59	67	--	West Germany 30; Sweden 17.
Ferronickel	NA	3,337	--	Indonesia 1,417; Greece 1,389.
Ferrosilicon	14,413	13,670	--	Yugoslavia 4,851; U.S.S.R. 3,719.
Unspecified	9,088	5,420	45	Czechoslovakia 3,501; West Germany 604.
Steel, primary forms	142,291	125,210	27	West Germany 54,342; Hungary 37,644.
Semimanufactures:				
Bars, rods, angles, shapes, sections	229,781	230,552	25	West Germany 96,001; Italy 74,905.
Universals, plates, sheets	225,949	259,666	63	West Germany 108,369; Belgium-Luxembourg 35,125.
Hoop and strip	70,751	77,810	1	West Germany 52,689; Italy 7,521.
Rails and accessories	4,494	2,996	--	West Germany 1,642; Italy 523.
Wire	29,644	35,419	6	West Germany 11,289; Belgium-Luxembourg 11,056.
Tubes, pipes, fittings	148,717	151,704	48	West Germany 74,956; Italy 18,093.
Castings and forgings, rough	12,416	13,811	18	West Germany 10,682; Switzerland 693.
Lead:				
Ore and concentrate	6,993	4,611	--	Italy 3,832; Canada 778.
Oxides	1,080	460	NA	France 246; West Germany 212.
Metal including alloys:				
Scrap	2,367	2,925	--	West Germany 888; Hungary 835.
Unwrought	32,549	31,362	684	West Germany 13,574; United Kingdom 5,878.
Semimanufactures	609	792	--	West Germany 724; Belgium-Luxembourg 29.
Magnesium: Metal including alloys:				
Scrap	25	116	--	West Germany 78; Italy 23.
Unwrought	1,650	2,801	684	Italy 947; Norway 411.
Semimanufactures	147	135	22	West Germany 79; Switzerland 16.
Manganese:				
Ore and concentrate, metallurgical-grade	439	362	--	Netherlands 151; Australia 150.
Oxides	77	180	NA	West Germany 88; Belgium-Luxembourg 58.
Mercury 76-pound flasks	290	368	75	West Germany 119; Sweden 102.

See footnotes at end of table.

Table 3.—Austria: Imports of selected mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1982	1983	Sources, 1983	
			United States	Other (principal)
METALS —Continued				
Molybdenum:				
Oxides and hydroxides	1,896	1,768	NA	NA.
Metal including alloys:				
Scrap	4	31	22	West Germany 7.
Unwrought	3	6	--	West Germany 5.
Semimanufactures	30	106	1	France 75; West Germany 29.
Nickel:				
Ore and concentrate kilograms	--	400	NA	NA.
Matte and speiss	833	622	7	Cuba 251; Netherlands 244.
Metal including alloys:				
Scrap	357	490	17	U.S.S.R. 107; West Germany 60.
Unwrought	1,129	2,620	404	Republic of South Africa 544; Zimbabwe 369; Canada 228.
Semimanufactures	534	510	88	West Germany 148; United Kingdom 75.
Platinum-group metals: Metals including alloys, unwrought and partly wrought troy ounces	28,711	16,493	NA	West Germany 12,667; Yugoslavia 1,350.
Rare-earth metals including alloys, all forms	149	91	--	West Germany 60; U.S.S.R. 30.
Silver:				
Waste and sweepings value, thousands	$22	$4	--	NA.
Metal including alloys, unwrought and partly wrought thousand troy ounces	r7,040	4,348	37	West Germany 3,541; Switzerland 485.
Tin:				
Oxides	10	5	--	West Germany 4; United Kingdom 1.
Metal including alloys:				
Scrap kilograms	--	500	--	NA.
Unwrought	455	438	(2)	Bolivia 146; West Germany 123.
Semimanufactures	182	181	1	West Germany 157; Netherlands 11.
Titanium: Oxides	8,549	9,215	NA	West Germany 6,015; Belgium-Luxembourg 706.
Tungsten:				
Ore and concentrate	2,413	3,090	NA	NA.
Oxides and hydroxides	70	67	NA	NA.
Metal including alloys:				
Scrap	248	344	8	West Germany 188; Belgium-Luxembourg 41.
Unwrought	58	77	11	Republic of Korea 32; Israel 19.
Semimanufactures	10	7	NA	West Germany 6.
Zinc:				
Ore and concentrate	9,323	6,649	--	Italy 3,694; Canada 2,933.
Oxides	951	1,472	--	West Germany 1,305; Italy 130.
Blue powder	945	1,250	NA	Belgium-Luxembourg 789; Norway 218.
Metal including alloys:				
Scrap	291	265	--	West Germany 113; Yugoslavia 100.
Unwrought	4,114	6,139	--	West Germany 5,092; Belgium-Luxembourg 265.
Semimanufactures	1,821	2,486	--	West Germany 1,614; France 527.
Other:				
Ores and concentrates	11,218	10,189	1,554	Netherlands 4,487; Republic of South Africa 1,155.
Ashes and residues	168,128	181,217	2,349	U.S.S.R. 114,685; East Germany 20,454.
Base metals including alloys, all forms	r4,553	1,949	69	U.S.S.R. 947; West Germany 205.
Waste and sweepings of unspecified precious metals value, thousands	$76	$182	--	Turkey $70; Denmark $63.
NONMETALS				
Abrasives, n.e.s.:				
Natural: Corundum, emery, pumice, etc	322	340	4	Italy 191; West Germany 44.
Artificial:				
Corundum	9,666	11,735	1,046	West Germany 4,480; France 2,643; Hungary 1,641.
Silicon carbide	2,583	2,701	NA	West Germany 1,538; Norway 357; Italy 237.
Dust and powder of precious and semi-precious stones including diamond kilograms	348	722	657	West Germany 43; Switzerland 17.
Grinding and polishing wheels and stones	1,148	1,410	3	West Germany 655; Spain 284; Italy 242.

See footnotes at end of table.

Table 3.—Austria: Imports of selected mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1982	1983	Sources, 1983	
			United States	Other (principal)
NONMETALS —Continued				
Asbestos, crude	27,082	26,076	2	Canada 12,747; U.S.S.R. 5,584; Italy 4,036.
Barite and witherite	6,649	9,278	--	West Germany 4,184; Ireland 3,080.
Boron materials:				
Crude natural borates	17,028	17,307	3,899	Turkey 13,198; Belgium-Luxembourg 125.
Oxides and acids	851	796	NA	France 383; Italy 238.
Cement	38,428	35,229	--	Yugoslavia 8,701; Italy 8,065; West Germany 7,697.
Chalk	3,177	2,319	--	France 1,348; West Germany 830.
Clays, crude:				
Bentonite	839	1,733	NA	West Germany 1,517; France 121.
Chamotte earth	15,240	13,688	--	Czechoslovakia 12,304; West Germany 1,139.
Kaolin	94,299	95,034	8,721	Czechoslovakia 31,154; United Kingdom 25,126.
Unspecified	r78,903	73,731	84	West Germany 52,288; Czechoslovakia 14,616.
Cryolite and chiolite	178	228	--	All from Denmark.
Diamond:				
Gem, not set or strung, value, thousands	$4,728	$6,208	$193	Israel $2,369; Belgium-Luxembourg $1,629.
Industrial stones, do	$358	$445	$17	Republic of South Africa $159; Hungary $73; Zaire $71.
Diatomite and other infusorial earth	7,958	11,395	2,657	Hungary 2,704; Czechoslovakia 2,372; Denmark 2,302.
Feldspar, fluorspar, related materials:				
Feldspar	5,095	4,300	--	Sweden 2,178; West Germany 1,732.
Fluorspar	10,617	11,894	--	East Germany 7,786; West Germany 3,300.
Fertilizer materials:				
Crude, n.e.s	3,978	5,873	26	West Germany 2,538; Italy 1,804.
Manufactured:				
Ammonia	8,036	24,980	--	Czechoslovakia 20,699; East Germany 1,982.
Nitrogenous	118,135	167,983	--	West Germany 95,838; France 27,535.
Phosphatic	79,771	69,309	739	France 45,438; West Germany 16,386.
Potassic	261,875	245,624	--	West Germany 9,885; undetermined 235,739.
Unspecified and mixed	147,886	193,808	5,383	West Germany 134,578; Italy 23,223.
Graphite, natural	2,653	3,738	(2)	Italy 1,276; China 933; North Korea 771.
Gypsum and plaster	9,627	8,917	18	West Germany 8,067; Italy 683.
Iodine	4,306	2,033	--	Yugoslavia 1,390; Italy 362.
Magnesium compounds:				
Magnesite	97,529	94,529	1	China 4,399; undetermined 88,421.
Oxides and hydroxides	2,165	1,027	--	West Germany 491; Japan 385.
Mica:				
Crude including splittings and waste	222	203	(2)	West Germany 73; Norway 40; France 38.
Worked including agglomerated splittings	159	173	2	France 92; Belgium-Luxembourg 44.
Nitrates, crude	1,142	1,550	--	All from West Germany.
Phosphates, crude	351,615	442,367	160,393	Israel 82,139; Jordan 51,282.
Pigments, mineral:				
Natural, crude	2,035	1,976	--	France 890; Spain 560.
Iron oxides and hydroxides, processed	3,279	4,486	--	West Germany 4,218; United Kingdom 187.
Potassium salts, crude	10,963	16,598	--	West Germany 12,965; East Germany 3,633.
Precious and semiprecious stones other than diamond:				
Natural, kilograms	4,202	4,507	19	West Germany 2,003; Thailand 655; U.S.S.R. 583.
Synthetic, do	14,220	11,577	990	Switzerland 6,298; U.S.S.R. 1,803; France 1,577.
Pyrite, unroasted	650	804	--	Italy 545; West Germany 259.
Salt and brine	164	232	(2)	West Germany 226.
Sodium compounds, n.e.s.:				
Carbonate, manufactured	1,297	3,179	--	West Germany 1,631; East Germany 801.
Sulfate, manufactured	232	666	--	West Germany 493; U.S.S.R. 120.

See footnotes at end of table.

Table 3.—Austria: Imports of selected mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1982	1983	Sources, 1983	
			United States	Other (principal)
NONMETALS —Continued				
Stone, sand and gravel:				
Dimension stone:				
Crude and partly worked	36,284	43,327	--	Italy 23,976; Republic of South Africa 6,496.
Worked	38,713	48,052	1	Italy 34,195; West Germany 7,750.
Dolomite, chiefly refractory-grade	3,240	3,993	--	West Germany 1,874; Italy 1,735.
Gravel and crushed rock	258,387	263,112	--	West Germany 238,207; Italy 18,476.
Limestone other than dimension	282	372	--	West Germany 337; Sweden 34.
Quartz and quartzite	34,701	42,601	--	Hungary 29,158; West Germany 12,313.
Sand other than metal-bearing	444,378	453,435	24	West Germany 253,081; Czechoslovakia 167,008.
Sulfur:				
Elemental:				
Crude including native and byproduct	84,658	93,489	--	Poland 34,625; West Germany 30,606.
Colloidal, precipitated, sublimed	96	248	--	Hungary 192.
Sulfuric acid	19,492	13,243	--	West Germany 11,966; Czechoslovakia 916.
Talc, steatite, soapstone, pyrophyllite	2,623	1,729	--	India 718; Norway 616.
Other:				
Crude	r71,341	67,698	1,535	West Germany 28,494; Hungary 20,275.
Slag and dross, not metal-bearing	29,352	33,382	5	Italy 24,673; Belgium-Luxembourg 2,060.
MINERAL FUELS AND RELATED MATERIALS				
Asphalt and bitumen, natural	1,779	1,762	42	Trinidad and Tobago 1,696.
Carbon: Carbon black				
value, thousands	r$17,309	$15,512	$37	West Germany $7,967; Italy $5,211.
Coal:				
Anthracite	18,003	26,735	--	U.S.S.R. 18,388; West Germany 8,276.
Bituminous thousand tons	2,834	2,933	341	Poland 1,048; Czechoslovakia 839; U.S.S.R. 421.
Briquets of anthracite and bituminous coal	24,834	22,039	--	West Germany 18,797; France 2,344.
Lignite including briquets	1,046,771	791,442	17	Yugoslavia 348,504; East Germany 304,255.
Coke and semicoke	873,945	890,187	--	Czechoslovakia 316,612; West Germany 238,398.
Gas, natural: Gaseous				
million cubic feet	106,870	88,125	--	U.S.S.R. 86,575; West Germany 1,550.
Peat including briquets and litter	65,491	65,496	--	West Germany 42,062; U.S.S.R. 13,389.
Petroleum:				
Crude thousand 42-gallon barrels	45,479	39,552	--	U.S.S.R. 10,235; Saudi Arabia 9,162; Algeria 5,046.
Refinery products:				
Liquefied petroleum gas do	610	940	9	West Germany 472; U.S.S.R. 223.
Gasoline do	5,181	5,000	(2)	Italy 2,402; West Germany 2,101.
White spirit oil do	8	16	--	West Germany 9; Belgium-Luxembourg 5.
Mineral jelly and wax do	103	107	(2)	West Germany 70; Poland 12.
Kerosine and jet fuel do	r57	450	(2)	Hungary 203; U.S.S.R. 185.
Distillate fuel oil do	1,773	4,266	(2)	Hungary 1,491; West Germany 1,039.
Lubricants do	r987	1,460	6	Hungary 561; East Germany 159.
Nonlubricating oils do	93	108	1	Czechoslovakia 56; West Germany 43.
Residual fuel oil do	7,495	6,309	--	West Germany 2,194; Czechoslovakia 1,425.
Asphalt do	1,076	1,280	--	West Germany 490; Yugoslavia 455.
Bitumen and other residues do	r424	629	--	Yugoslavia 388; West Germany 94.
Bituminous mixtures do	38	32	(2)	West Germany 20; Netherlands 5.
Petroleum coke do	415	509	153	West Germany 311; United Kingdom 21.
Unspecified do	35	83	--	Yugoslavia 42; West Germany 18.

r Revised. NA Not available.
[1] Table prepared by Josef Plachy.
[2] Less than 1/2 unit.

COMMODITY REVIEW

METALS

Iron and Steel.—The Austrian steel industry, consisting largely of state-owned VA, had expanded its crude steelmaking capacity for several years up to 1976 by installing new basic oxygen converters. Since then, however, it has maintained capacity at about 5 million tons per year during its restructuring process, which included the closure of the world's first Linz-Donowitz shops at the end of 1977. In 1982, the remaining open-hearth furnaces were shut down. The ratio of continuous casting capacity to total crude steel capacity had been rapidly increased to 89% by 1984.

The steel industry continued to do well in 1984 after its temporary drop in 1982. Austria was 25th in world output of steel. Over 90% of crude steel was produced by the oxygen-blown method, and 89% of steel was cast by the continuous method. The production capacity remained almost the same as in 1983, at 5 million tons of crude steel, and 4.3 million tons of pig iron and blast furnace ferroalloys. About 94% of available steel capacity was held by the Government and the rest by private firms. The steel industry employed 34,944 workers, a 2.4% decrease from that of 1983, and a 17% decrease since 1974.

Over 80% of Austrian steel production was exported, and VA entered into contracts with various foreign governments for contracting services. VA had previously well-established trade connections with the U.S.S.R. and in 1984 was working on construction of a steel tire-cord plant at Zhlobin, near Minsk in Belorussia, the first steelworks the U.S.S.R. has bought from market economy countries on a turnkey basis. VA was also installing two 1.4-million-ton-per-year continuous slab casters at the Misurata steelworks in Libya; modernizing Saudi Arabia's steelworks at Al Jubail; and refurbishing the German Democratic Republic's VEB Eisenhüttenkombinat Ost. On the other hand, the German Democratic Republic's VEB Edelstahlwerke "8 Mai 1945" at Freital provided technology to VA for the installation at Linz of the world's largest plasma steelmaking furnace. The 45- to 60-ton unit cost an estimated $5 million. Most of VA's construction projects at the beginning of 1984 came from the Arab countries, 49.7%, and CMEA countries, 38.8%. The United States and Asia were, however, becoming significant trading partners. VA, for example, held a 31% interest in the Bayou Steel Corp. of La Place, in Louisiana (United States).

In 1984, 90% to 95% of VA's crude steel capacity was used for the production of carbon steel, and 5% to 10% for the manufacture of commercial grades of unalloyed and alloyed specialty steel. Specialty steel production was carried out almost exclusively by VA's subsidiary Vereinigte Edelstahlwerke AG (VEW). Stainless steel represented about 40% of production, and Austria was the 12th largest stainless steel producer in the world.

Lithium.—One of the largest lithium deposits in the world was reported to have been discovered in pegmatites of the Koralpe area, a mountain range in the south of Austria.[7] Mineral-Exploration GmbH (Minarex), a subsidiary of OIAG, had been investigating the deposit for several years and estimated it to contain 5 million tons of lithium-bearing spodumene ore, apparently large enough to satisfy worldwide requirements for 12 years.[8] The deposits are at a 1,700-meter altitude and will be mined underground. Feldspar and quartz of high quality, to be used in ceramics and white glass, will be produced as byproducts. An investment of $30 to $50 million will be required to establish mining and processing facilities. The company expected that within 4 to 5 years, 150 to 200 workers would be involved in production. Minarex had already received $900,000 from the Austrian Government for its research, and is to receive another $1.3 to $1.5 million to accomplish the mine development phase.

Refractory Metals.—Metallwerk Plansee GmbH, based at Reutte in the heart of a Tyrolean valley near Innsbruck, was one of Austria's most successful private minerals processing companies. The company was a world leader in refractory and alloy metals produced by powder metallurgy. The company had annual sales of about $125 million, mainly of hard metals and high-melting-point metals and composites based on tungsten, molybdenum, tantalum, rhenium, and columbium. The process demands extensive research and development, which at Plansee accounted for about 7% of annual sales of $80 million, more than twice the Austrian average. The company turned out about 50,000 different products, including cutting tools, X-ray tube electrodes,

noncorrosive pipe, fittings, and long-wear components. Sintered iron and steel products were the speciality of the Plansee affiliate company, Sinterstahl GmbH, based in Fussen.[9]

Plansee employed about 2,500 people, 1,850 of whom were in the two main Reutte plants. The company also had three plants in the Federal Republic of Germany and another at Linz, upper Austria, jointly owned with VA.

More than 90% of Plansee's production was exported, mainly to the Federal Republic of Germany, 23%; the United States, 18%; and Japan, 15%. About 11% of sales was to Eastern Europe and the U.S.S.R.

Tungsten.—Wolfram Bergbau-und Hüttengesellschaft mbH operated its scheelite mine at Mittersill near Salzburg to capacity, increasing its production for the second year. Consumption of tungsten increased also, and ore output was supplemented by scrap and concentrate imports to meet strong European demand for tungsten powders.

The production in the open pit at Ostfeld was about 150,000 tons per year, and surface mining was planned to terminate in 1985. The production from the underground mine at nearby Westfeld was approximately 220,000 tons. The underground mine will eventually operate yearround to compensate for the loss of surface operation at Ostfeld. Since the discovery of the scheelite deposit in 1967, the Mittersill Mine has become one of the largest in market economy countries.[10]

NONMETALS

Industrial and Building Materials.—The production of industrial and building materials is important to the Austrian economy. Among the industrial minerals, significant production was obtained of brine salt, magnesite, dolomite, quartz and quartz sand, gypsum, and anhydrite. Kaolinite, illite clay, talc, and graphite were also mined. Talc was produced from surface and underground mining operations at Rabenwald, Lassing, and Weisskirchen. In total, there were six operating mines, which employed 258 people, of which 212 were miners. Crushed stone, sand and gravel, and dimension stone were the main construction and building materials.

Sodium Sulfate.—Two companies produced sodium sulfate in Austria, Chemiefaser Lenzing AG (CL) at Lenzing, and Erste Österreichische Glanzstoff-Fabrik AG at St. Polten, at a combined production capacity of 100,000 tons per year. CL was the largest producer, with a production capacity of 90,000 tons per year. The sodium sulfate was produced as a byproduct from its rayon production facility at Lenzing, based on a standard crystallization process. Sodium sulfate content of the product was 99.8%, and 80% of production was sold to the detergent industry, with the remainder going to the pulp, glass, and textile industries.

MINERAL FUELS

Austria imported over 72% of its total energy requirements. Indigenous oil production covered about 17% of total oil requirements, most of it produced by the state-owned company OMV, which was also the leading oil and gas exploration company.

The production of all mineral fuels, except gas, continued to decline, while imports rose and consumption of most forms of energy increased. The production of natural gas rose in 1984, after several years of decline. Energy imports for the first 9 months of 1984 increased by 17%, almost as much as total imports for 1983. In the first 10 months of 1984, coal imports were up 21.9%; natural gas, 68.1%; oil and oil products, 6.6%; and electricity, 25.9%. The steep rise in electricity imports was accompanied by a fall of 15.2% in exports. This still left Austria a net exporter of electricity, but the difference between imports and exports was narrowing.[11] Hydropower was the main indigenous energy source, and accounted for 60% of total domestic energy production.

Energy imports from CMEA countries accounted for over 42% to 50% of total energy needs, compared with 32.6% for that of 1983. Of this, coal imports accounted for 62.6%; oil and oil products, 27.5%; natural gas, 85.6%; and electricity, 6.7%. Oil imports remained stable. Austria's dependence on CMEA countries increased, largely owing to changes in the structure of energy consumption toward greater use of gas. Because gas from the Netherlands was too expensive, the U.S.S.R. was the only country from which gas imports were viable.

The future of several large energy projects continued to be uncertain, including the hydroelectric powerplant and dam at Hainburg, an almost completed coal-fired plant at Durnrohr, a planned pump-storage plant at Dorfetal, and the completed nuclear plant at Zwentendorf, which was built in 1978 but has never been used because a national referendum decided against com-

missioning it, owing to environmental concerns.

Coal.—The Austrian coal mining industry was of modest importance. In 1983, Austria depended on imports for nearly 60% to 70% of its coal and coke requirements, much of it from the CMEA countries. The increase in CMEA's share of coal and coke imports was due to substantial coal purchases from Poland. Electricity utilities have concluded a 2-year contract with Poland for 20 million tons. During the first half of 1984, Austria imported 824,000 tons of Polish coal, 41% of its total coal imports, compared with 31% in 1983, and 22% in 1982. The dependence on Polish and other CMEA coal was continuing at a high level because of the transport cost advantage and long-term contracts. Other main suppliers were Czechoslovakia, the German Democratic Republic, the Federal Republic of Germany, and the United States.

Most of the Austrian coal deposits were in Styria and Upper Austria, the reserves amounting to about 220 million tons, 140 million of which were minable. There were three operating coal mining companies, two of which were state-owned,[12] employing almost 5,400 workers. Salzach-Kohlenbergbau GmbH, in Upper Austria near the Bavarian border, was the only privately owned coal company. The company mined about 18% of domestic coal.[13]

Natural Gas.—Austria imported about one-half of its natural gas requirements, most of it from the U.S.S.R., except very small quantities from the Federal Republic of Germany. Austria was the first market economy country to purchase Soviet gas in 1968. In 1984, additional contractual obligations for gas imports from the U.S.S.R. via the new pipeline from Siberia were signed, including a contract on the supply of natural gas from 1984 to 2008, which provides for a gradual increase until 1989, and from 1990, it calls for a supply of 53 billion cubic feet, with an option for an additional increase of up to 35 billion cubic feet per year.

In order to diversify gas supply sources, contacts with northern European suppliers and Algeria continued but have not led to contractual agreements. The Austrian authorities have made considerable efforts to strengthen the country's ability to deal with possible supply disruptions. If this were to occur, supply would have to be based on increased domestic production and stock drawdowns, while gas supplies to consumers would be reduced. Between 1980 and 1983, gas storage capacities were increased from 34,250 to 81,200 million cubic feet. Storage capacity was able to handle 6 months of gas consumption.

Petroleum.—The domestic production of oil and refinery products continued to decline steadily. Over 80% of domestic crude oil was produced by OMV and the rest by multinational oil companies, operating under the name of Rohöl-Aufsuchungs GmbH. OMV employed 9,500 workers throughout the country, in all its concerns. OMV's and Austria's only refinery at Schwechat produced almost 40% of Austria's petroleum products.

Austria imported approximately 83% of its oil needs, of which over 30% was from Saudi Arabia, the largest supplier, and about 23% from the U.S.S.R. Libya was also a significant supplier of crude oil. As announced in Baumgarten at the 10th anniversary of the Trans-Austria gasoline line, the natural gas line from the Soviet Union through Austria and into the European grid is to be expanded. The recently concluded contract for additional gas from the Soviet Union for Italy will necessitate the construction of a parallel pipeline through Austria, to move up to 212 billion cubic feet of gas per year, compared with a 1984 transport capacity of 353 billion cubic feet per year. Austria played an increasingly important role in the European gas grid system, which has been in operation since 1974 and has transported almost 2 billion cubic feet of Soviet natural gas. Although the majority of the gas was destined for Italy, deliveries were also made to France, Yugoslavia, and the southern provinces of Austria.

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[1]Physical scientist, Division of International Minerals.
[2]Where necessary, values have been converted from Austrian schillings (S) to U.S. dollars at the rate of S20.01 = US$1.00, the average rate in 1984.
[3]Mining Journal (London). Austria—More than Mountains. June 14, 1985, pp. 417-419.
[4]Page 419 of work cited in footnote 3.
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